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PHLEGETHONTIUS CARIBBEUS Cary (above).
PHLEGETHONTIUS SEXTUS JAMAICENSIS Btlr. (below).

ENTOMOLOGICAL NEWS

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Phlegethontius caribbeus. A New Sphinx Moth from Haiti, West Indies

By MARGARET M. CARY, Academy of Natural Sciences, Philadelphia

Pursuant of my eight-year study of the distribution of Sphingidae (Hawkmoths), in the Antillean-Caribbean region, I spent ten days in March, 1952, collecting at Petionville, Haiti. At Petionville, which is 1,600 feet above sea level, there is an unobstructed view over plains and seacoast far below as well as over a well-forested region in the foreground. The flora of this hilly foreground is varied and quite representative of other hill and mountain regions of Haiti. Our light, a 100 watt clear bulb, fastened to the porch balustrade, shone out, therefore, over a wide stretch of country. Although it was the dry season, there were during our stay, two good showers, one of which turned into light rain dripping most of the night. There was at no time a large flight of moths, but on the other hand I was never bothered by quantities of common Sphingids.

On the 18th of March, 1952, there was brought to me from the kitchen in a jar a Sphinx moth that I had never seen before, though I have spent a long life studying the Sphingidae of the Western Hemisphere. Except for slight rubbing on one wing, the moth, a female, was in perfect condition. When spread and shown to Lepidopterists both in Jamaica and Philadelphia, it looked to all entirely unique, having absolutely no characteristic of a hybrid. It was a yellow abdominal spotted Phlegethontius and *Phlegethontius sextus jamaicensis* Btlr. is the only yellow-spotted Phlegethontius in Haiti except one doubtful record

without locality of *Phlegethontius afflicta* Grt. To *afflicta* it bore no slightest resemblance.

Putting it in a box with some *Phlegethontius sextus jamaicensis* Btlr. from both Haiti and Jamaica, and *Phlegethontius sextus lucia* Gehlen from Dominica I went to consult the Lepidopterists at the U. S. National Museum in Washington, D. C. Dr. John Fraclemont, though not at present working much with Sphingidae, has a broad knowledge of this family and is an excellent taxonomist. After comparing my specimen with all the yellow abdominal spotted Phlegethontius in the Museum, and after consulting the other Lepidopterists there, we decided that it is quite clearly a new species of Phlegethontius.

Phlegethontius caribbeus sp. nov.

One female, the type, no. 7813 in the collection of the Academy of Natural Sciences of Philadelphia.

Petionville, HAITI (1600 feet), March 18, 1952.

Wing spread 3⅝ inches, slightly smaller than average *Phlegethontius sextus jamaicensis* Btlr. of Haiti and much smaller than average *P. sextus jamaicensis* Btlr. of Jamaica where more lush conditions prevail. Haitian *jamaicensis* average 4¼ inches and Jamaican *jamaicensis* 4¾ inches. Antennae ⅝ inch long, grayish white above and brown below, slender with slight hook, about ¼ inch shorter than the antennae of female *jamaicensis* from Haiti. The color of the upper wing is pale gray suffused and mottled with white, so that in color it resembles a very pale *Phlegethontius quinquemaculatus* Harr. The head and palpi are pale gray. There is a black collar. *Phlegethontius sextus jamaicensis* Btlr. has either a very dark gray-black or brown head with matching palpi. Occasionally *jamaicensis* has a dark line at the collar but in none of many specimens examined a distinct black collar. Thorax of *caribbeus* almost white above with two black tufts where thorax joins abdomen. Abdomen with five pale yellow lateral spots margined black. Abdomen white below with three dark spots. Spots on abdomen of *jamaicensis* are generally six in number and of a bright orange-yellow color.

There are white punctiform spots on dorsum of abdomen in both species.

Upper wings: Above; pale gray with a clearly marked fringe much more noticeable than in *jamaicensis* because black is somewhat extended at vein ends. There is only a suggestion in *caribbeus* of the white notched line near the fringe, so prominent in *jamaicensis,* but the curved black apical line is very prominent in *caribbeus* because it encloses a white area. There is, as in *jamaicensis,* a small white crescentiform spot at the cell end. The darker gray median lines are indistinct and interrupted, as are the distal ones in *caribbeus.* The most distinguishing mark of the upper wings above, however, is a black sharply angled post discal line with small, even scallops from costal margin to bend, and then almost straight. This shows very plainly in the accompanying plate where *caribbeus* is above *jamaicensis.*

Upper wings: Below; much less distinctly marked with the characteristic scalloped lines of *jamaicensis.* Here only two lines spreading apart at upper margin and whitish in between. White apical patch distinct on under side of wing in *caribbeus,* not in *jamaicensis.*

Lower wings above: dark gray black border loses its sharp black line halfway to costal margin and the one distinct white band of *caribbeus* is much broader near costal margin than in *jamaicensis.* There are 3 distinct scalloped median black lines with suffused gray white in between. The upper side of lower wing is rather more suffused, less distinctly marked than in fresh specimens of *jamaicensis.*

Lower wing: Under side of *caribbeus* is very white basad, with two dark irregularly scalloped lines very unlike the evenly and deeply scalloped lines in all *jamaicensis* and in *Phlegethontius quinquemaculatus* Harr.

Since this specimen is a female the sexual armature is not described. Work is being done on the female sexual armature of Sphingidae but has not yet reached a sufficiently definitive stage to warrant dissection of this specimen, the type.

Additions to the List of Dragonflies of Mississippi (Odonata: Anisoptera)

By MINTER J. WESTFALL, JR., Department of Biology, University of Florida, Gainesville, Fla.

While compiling the distribution records to be published in the forthcoming *Manual of the Dragonflies of North America* by Dr. James G. Needham and the present author, a study was made of the published records for North America. It was noted that very few records could be found for the state of Mississippi, so a list was begun based on specimens in the Cornell University collection and my own collection. In 1950, Dr. George H. Bick published a list of Anisoptera from Mississippi [1] which containd records of fifty species. When Dr. Bick's list was examined it was found to include all but fourteen of the species appearing in my preliminary list.

In the spring of 1951, Mr. Gordon L. Wills asked me to determine adults of Anisoptera for him which he had collected in connection with work on his master's thesis at the University of Mississippi. His collection contained eight more species not in Dr. Bick's list or in my additional list. He has generously permitted his records to be included in this paper. Dr. Needham has recently described a new species, *Gomphus hodgesi,*[2] reporting it from Mississippi and Alabama. Counting *G. hodgesi,* I record here twenty-three species to be added to the 1950 list, making a total of seventy-three. There are undoubtedly additional species which occur in Mississippi, for in the neighboring states of Florida and Alabama according to my preliminary list there have been collected ninety-eight and ninety-five species of Anisoptera respectively. I have records for a number of species of Zygoptera from Mississippi not hitherto reported, but they are not to be included here.

The specimens referred to in this paper are all in the Cornell University collection unless indicated otherwise. The abbre-

[1] Amer. Midl. Nat. 43 (1): 66–78, fig., 1950.
[2] Trans. Amer. Ent. Soc. 76: 8–10, fig., 1950.

viations listed below indicate collectors when immediately following the number of specimens examined; when at the end of the record, following the date, and in parenthesis, they indicate the person who has the specimens when they are not in the Cornell collection.

ALD Mrs. Alice L. Dietrich
GLW Gordon Lee Wills
MJW Minter J. Westfall, Jr.

Cordulegaster diastatops Selys. GEORGE Co.—Lucedale: 1 ♀, ALD, 3/20/30.

Gomphus (Arigomphus) *submedianus* Williamson. LAFAYETTE Co.—Oxford (Four Mile Branch): 1 ♂, GLW, late July 1951 (MJW).

Gomphus (Gomphurus) *fraternus* Say. GEORGE Co.—Lucedale (Dog River): 1 ♀, ALD, 5/20/31—North: 1 ♂, ALD, 4/13/31. PERRY Co.—New Augusta (Leaf River): 1 ♂, ALD, 4/30/31.

Gomphus (Gomphurus) *vastus* Walsh. GEORGE Co.—Merrill (Banks of Pascagoula River): 1 teneral ♂ taken in transformation with exuvium, ALD, 4/8.

Gomphus hodgesi Needham. GEORGE Co.—Lucedale: 1 ♂, ALD, 3/1/32. GREENE Co.—Leaf: 1♂, 5/7/31. In the original description of this species, a photograph of a dorsal view of the male caudal appendages taken by me was used for an illustration. Through an unfortunate error fig. 5 in that paper was also attributed to this species. It is a lateral view of the male caudal appendages of *Gomphus diminutus* shown in dorsal view as fig. 3.

Gomphus lividus Selys. LAFAYETTE Co.—Oxford (Tobitubby Creek and Four Mile Branch): 1 ♂, 2 ♀♀, GLW, late Spring and July 1951 (GLW). This species was said by Mr. Wills to be quite abundant.

Gomphus (Stylurus) *laurae* Williamson. TISHOMINGA Co. —Tishominga State Park: 2 ♂♂, GLW, Summer 1951 (MJW).

Hagenius brevistylus Selys. GEORGE Co.—Lucedale: 2 ♀♀, ALD, 6/2/31.

Gomphaeschna antilope Hagen. GEORGE Co.—Lucedale: 1♂, Mary Alice Dietrich, 4/18/29.

Gomphaeschna furcillata Say. GEORGE Co.—Lucedale: 6♂♂, ALD, 3/3/30, 3/5/30, 3/1/32.

Basiaeschna janata Say. LAFAYETTE Co.—Oxford (Tobitubby Creek): 1 ♂, GLW, early Summer 1951 (GLW).

Macromia georgina Selys. GEORGE Co.—Merrill: 1♂, ALD, 6/15/29 (MJW). LAFAYETTE Co.—Oxford (Tobitubby Creek): 1♀, GLW, June 1951 (MJW).

Epicordulia regina Hagen. GEORGE Co.—Merrill: 1♂, ALD, 7/14/29. LAFAYETTE Co.—Oxford (Minnows, Inc., and Bramlett's Lake): several specimens collected by GLW, late June and early July 1951, 1♂ examined by me (GLW).

Somatochlora filosa Hagen. GEORGE Co.—Lucedale: 1♂, Ernest, 10/12/31. FORREST Co.—Hattiesburg: 1♂, 1♀, Bill Thomson, 9/3/41 (MJW).

Somatochlora provocans Calvert. FORREST Co.—Hattiesburg: 1♂, Bill Thomson, 8/24/41 (MJW).

Somatochlora tenebrosa Say. LAFAYETTE Co.—Oxford (Four Mile Branch): 1♂, GLW, late July 1951 (GLW).

Tetragoneuria williamsoni Muttkowski. GEORGE Co.—Lucedale 2♂♂, ALD, 4/23/30.

Cannacria gravida Calvert. JACKSON Co.—Ocean Springs: 2♂♂, ALD, 7/13/30, 7/9/31.

Celithemis amanda Hagen. GREEN Co.—Leakesville: 1♀, ALD, 4/11/29. PERRY Co.—New Augusta: 1♂, ALD, 7/12/29.

Celithemis ornata Rambur. GEORGE Co.—Lucedale: 6♂♂, 4♀♀, ALD, 4/18/29, 4/5/30, 4/10/30, 5/14/30.

Dythemis velox Hagen. LAFAYETTE Co.—Oxford (Bramlett's Lake): 3♂♂, GLW, mid-summer 1951 (GLW).

Nannothemis bella Uhler. GEORGE Co.—Lucedale: 1♂, ALD, 4/18/29.

Sympetrum vicinum Hagen. LAFAYETTE Co.—Oxford (Mett's Pond): 3 teneral ♀♀, GLW, Summer 1951 (GLW).

Mr. Wills in his unpublished thesis listed *Gomphus exilis* Selys from Mississippi. I now believe this to be in error, due to my earlier indecision as to whether his specimens were of that species or of *Gomphus flavocaudatus* Walker. Since then I have sent five specimens, 3♂♂ and 2♀♀ (taken by Mr. Wills at Oxford and now in my collection) to Dr. E. M. Walker for checking. He replies that they are his *flavocaudatus*. He further states that it is likely his species may be considered as a subspecies of *exilis* when more material is available. He could find no differences between the females of *flavocaudatus* and the northern specimens of *exilis*. He did not have the females

of the former species when he described it in 1940.[3] Additional specimens of *flavocaudatus* from Mississippi which Dr. Walker checked for me are as follows: FORREST Co.—Hattiesburg: 2♂♂, Bill Thomson, 4/18/41, 4/11/42 (MJW). JACKSON Co.—Cedar Creek: 1♀, ALD. GEORGE Co.—Lucedale: 2♀♀, ALD, 4/18/29, 4/5/30. —MERRILL: 1♂, ALD, 4/7/29. PERRY Co.—New Augusta (Leaf River): 1♂, ALD, 4/30/31. WAYNE Co.— Clara: 1♂, ALD, 3/24/32.

A New Cavernicolous Nampabius with a Key to its Northeastern American Congeners (Chilopoda: Lithobiidae)

By RALPH E. CRABILL, JR., Department of Entomology, Cornell University

The present species is of interest because it was collected one-half mile within a cave at Lowmoor, Virginia. Although it cannot be said with absolute certainty that *tubator* is an established cavernicolous centipede, its status as one is strongly suggested by its rather pale color, by its ocelli which, though relatively numerous, are individually smaller than those of related forms, and by the exceptionally large organ of Tömösvary.

Nampabius turbator n. sp.

The new species bears a marked resemblance to the Ithacan *N. fungiferopes* (Chamberlin) in that both evidence a striking poverty of pedal spurs,[1] and both lack even the tiny thirteenth

[3] Ent. News 51: 194–196, plate V, 1940.

[1] In order to establish some degree of uniformity in the presently confused terminology as it pertains to spines, spurs, and setae, I would suggest the adoption of the widely followed concepts of the insect morphologists as outlined in "An Introduction to Entomology" by J. H. Comstock, 9th ed., p. 32, 1940 and in "A Glossary of Entomology" by J. R. de la Torre-Bueno, 1937. Thus, a spur is a *movable multicellular* outgrowth connected to the exoskeleton by a joint. A spine is an *immovable multicellular* outgrowth not connected to the exoskeleton by

tergital productions characteristic of many of their congeners. The two forms are distinct, however, in that *turbator* possesses always two and sometimes three spur series not seen in *fungiferopes,* viz. *dpP, daF,* and *vmF.*[2] In addition, *turbator* is distinctly larger than the typically Liliputian *fungiferopes.*

The system of plectrotaxy[3] employed here was devised by Ribaut and presented by him in 1921[4] in a short but, unfortunately, ignored paper. Because the Ribaut system emphasizes a qualitative investigation of plectrotaxy, it lends itself more readily to a study of variation in the dispersions of serially homologous spurs than does the classical quantitative method of L. Koch and Meinert, which is still used today almost universally.

Type.—♂, Lowmoor, Alleghany Co., VIRGINIA. April 1950. (Richard L. Hoffman; one-half mile within a cave); [in author's collection, C-1398-619].

Total length: 7.5 mm. *Color:* dorsum generally rather pale yellowish-brown, the head, first tergite and posterior extremities slightly darker brown. *Antennae:* 3.5 mm. long; with twenty articles; relatively densely clothed with stiff straight setae; the third to tenth articles weakly areolate, not deeply strikingly sculptured as in *virginiensis. Cephalic plate:* 0.95 mm. long, 0.90 mm. wide; lateral interruptions minute; ocelli small, in number 1–3,2,1; organ of Tömösvary relatively larger than in related species, larger than any ocellus; sparsely clothed with long stiff setae, the longest of which is about 0.10 mm.

a joint. A seta is a *unicellular, movable* outgrowth connected to the exoskeleton by a joint. A spur would be exemplified by the pedal spurs discussed in this paper; the sharp thorn-like outgrowths of the ultimate legs of *Scolopendra* would be termed spines, and the antennal pilosity of most forms would be representative of setae.

[2] *vmF* is lacking in all of my specimens except one; then it is represented by a single spur on the thirteenth pair of legs.

[3] The term *spinulation,* previously used by some, is inappropriate here in as much as it refers to spines. Such a term as *spurulation* is etymologically objectionable, therefore I propose the term *plectrotaxy* (πληκτρόν = calcar = spur) to describe the arrangement and nomenclature of the serially homologous pedal spurs of Lithobiids.

[4] RIBAUT, Soc. D'Hist. Nat. Toulouse XLIX, pp. 312–319, 1921.

Prehensors: prosternal teeth 2–2, their apices steeply reëntrant, the medial diastema widely U-shaped. *Tergites:* sparsely clothed with long and short straight setae, these longest on tergital periphery and especially on tergital posterior corners; the thirteenth tergital corners straight, not produced; the fourteenth tergital posterior margin slightly excised, not bowed posteriorly in a rounded arch as in *michiganensis*. *Legs:* tarsi one through eleven unipartite without a trace of a partial ventral suture or other divisional indication, the twelfth and thirteenth tarsi each with a very weak partial ventral suture, the penultimate and ultimate tarsi completely bipartite, each with a dorsal condyle; legs one through thirteen with three apical claws, legs fourteen and fifteen apparently retaining only the inner (unguiform) pretarsal accessory claw in addition to the pretarsus; coxal pores circular or slightly elliptical, decreasing in size proximally, in number 2,2,2,2; no coxae laterally armed; the penultimate and ultimate femora, tibiae, and tarsi mesally pierced with numerous small pores. *Leg modifications:* the ultimate and penultimate slightly longer and more crassate than those preceding; ultimate without lobes or crests; penultimate tibia disto-dorsally with a small almost spherical (very slightly elliptical) setigerous lobe most resembling that of *virginiensis*, its pedicel short, insensibly merging into the body of the lobe. *Plectrotaxy:* only the following spur series are present, *dpP* (13–15),[5] *daF*(3–10), *daT*(1–11), *vmt*(14–15), *vmP*(14–15), vmF(10–15), *vmT*(3–13).

Allotype.—♀, Lowmoor, Alleghany Co., VIRGINIA. April 1950. (Richard L. Hoffman; one-half mile within a cave); [in author's collection, C-1398-619].

Besides lacking the sexually dimorphic features characteristic of the male, the female allotype differs from the male type in the following particulars.

Length: 9.5 mm. *Gonopods:* basal spurs 2–2, broad, distally rather abruptly though bluntly pointed; claw tripartite, the ven-

[5] The bracketed figures represent spur dispersions, indicating the anterior and posterior limits of the spur series. Thus, *dpP* (13–15) means that the indicated spur occurs on the thirteenth through fifteenth pairs of legs.

tral denticle minute, barely separated from the medial denticle, the dorsal denticle almost as long as and distinctly separated from the medial denticle. *Plectrotaxy:* only the following spur series are present, *dpP*(13–15), *daF*(2–9), *daT*(1–11), *vmt*(14–15), *vmP*(14–15), *vmF*(9–15), *vmT*(3–13).

KEY TO THE NORTHEASTERN[6] SPECIES OF NAMPABIUS[7]

1a. dmP, dpF, and dpT lacking. Thirteenth tergite not produced 2
1b. *dmP* and *dpF* present, *dpT* present or absent. Thirteenth tergite distinctly but shortly produced.....3
2a. *dpP* and *daF* lacking, *vmF* usually lacking..... .....*fungiferopes* (Chamberlain).
2b. *dpP, daF* and *vmF* present.....*turbator* sp. n.
3a. *dpT* present. Prosternal diastema usually U-, less often V-shaped. Male fourteenth tergital posterior margin straight or slightly excised. Antennal articles three through about ten strikingly deeply areolate.....*virginiensis* Chamberlin.
3b. *dpT* absent. Prosternal diastema usually V-, less often U-shaped. Male fourteenth tergital posterior margin bowed posteriorly in a broad rounded curve. Antennal articles three through ten weakly areolate, the sculpturing detected with difficulty.....*michiganensis* Chamberlin.

[6] I.e., those states north of North Carolina and east of the Mississippi River.

[7] *Nampabius lundii* (Meinert) (Myriap. Mus. Haunensis III, p. 111, 1886), is not included; it is considered here *species inquirenda.*

The Hawaiian Species of Lagocheirus (Coleoptera: Cerambycidae)

By Lawrence S. Dillon, Department of Biology, A. & M. College of Texas, College Station

For many years the Hawaiian species of *Lagocheirus* has variously gone under the names *obsoletus* Thomson or *araneiformis* Linné. A study of some of the American species, however, reveals the fact that there are numerous, very similar-appearing forms in the genus which can be separated only with close scrutiny, the differences between them being minor, perhaps, yet constant. As several specimens from the Hawaiian Islands were on hand, they were found, after a comparison with the continental forms, to be quite distinct. It is the plan of the author and his wife to begin in the near future a revisional study of the Western Hemisphere components of the tribe Acanthocinini, but meanwhile, it was believed best to publish the description of this new form.

Lagocheirus zimmermani Dillon, spec. nov.

Female: Dark reddish brown to fuscous, densely covered with ashy pubescence, sometimes tinged with dull fulvous; head, sides of prothorax, body beneath, legs, and first and third antennal segments, finely mottled with brown. Head above at occiput broadly fuscous and with a pair of blackish maculae between upper ocular lobes; front along eye margin with two or three blackish points. Pronotum largely pale fulvous, punctures without whitish outlines; disk with a paler fulvous macula before the median and two apical tubercles; apical black bars short, strongly oblique, ending abruptly at apical sulcus, basal black bars broad, extending cephalad of the apex of basal tubercle; on sides behind lateral tubercle a large, quadrate black macula. Scutellum largely blackish pubescent, whitish or fulvescent apically or with a vitta of pale extending to or near base. Elytra with the usual brown basal area poorly indicated, defined posteriorly in part by a common,

transverse, darker brown streak, without circumscutellar dark markings; post-median sutural blackish streaks very fine, usually prolonged, at only a feeble angle with suture, blackish streaks at apical quarter short, absent, or maculiform; apical quarter ashy-brown, not outlined with blackish anteriorly; before humerus a quadrate blackish macula, lateral fuscous area nearly semicircular, in part outlined with pale fulvous; entire elytron with series of blackish tufts and, in addition, with single, long, erect, brown, flying hairs. Tibiae broadly annulate with whitish medially; tarsi fuscous, first two segments ashy pubescent. Antennae with scape ashy pubescent, indistinctly annulate with brownish at base and at apical fourth; third segment with a broad ashy annulus covering most of its surface; fourth (and sometimes fifth) segment biannulate with ashy; rest with a rather narrow, submedian, ashy annulus.

Entire upper surface minutely, densely alutaceous. Head above with several setigerous punctures bordering eye; front impunctate, one-third broader than high; eye with lower lobe erect, two-fifths again as tall as gena, upper lobes separated by a distance slightly greater than one of their widths. Pronotum one and three-quarters times as wide as long, sides slightly tapering to apex, lateral tubercles robust, subacute, with a short, blunt spine apically; disk with five subequal, prominent tubercles, two subapical, three behind middle, the more lateral of which are more or less transverse, with numerous but well spaced, moderately coarse punctures, the basal and apical rows only slightly coarser. Elytra moderately coarsely, densely granulate-punctate in basal brown area, punctures becoming suddenly fine and simple to middle, thence gradually quite sparse to apex; basal gibbosity well indicated, broad, with three rows of tufted tubercles, the sutural and lateral ones composed of but one or two tubercles, the costae only feebly indicated; disk well sprinkled with tufted tubercles, especially apically; apices broadly truncate. Prosternal process not quite half so broad as a procoxal cavity; mesosternal process two-thirds as broad as mesocoxal cavity. Fifth abdominal sternite about one and three-fourths as long as fourth,

apex broadly, deeply emarginate. Antennae about one-fourth again as long as body, the ninth segment surpassing elytral apex; scape extending slightly beyond apex of pronotal lateral tubercle; third segment feebly longer than first; fourth one-ninth shorter than first; fifth less than two-thirds, and sixth one-half, as long as first; rest gradually shorter.

Length 17–18 mm.; width 5 mm.

Holotype: Female; Honolulu, OAHU, January 1907 [author's collection].

Paratypes: Two; Kona, Hawaii, November 15, 1937 (C. J. Davis) [Utah State Agricultural College].

Remarks: The author takes great pleasure in naming this species for Elwood C. Zimmermann, of the Honolulu Experiment Station, through whose generosity the holotype was received.

From all other known species similarly marked and likewise with biannulate antennal segments, this form is readily distinguished by the separate, long, pale brown, flying hairs which are scattered over the elytral surface and which are best seen in profile.

Occurrence of a Japanese Centiped in Alaska

Three species of chilopods were collected by Dr. J. S. Stanford in McKinley Park, Alaska, in July of 1948. These are *Alaskobius josephus* Chamberlin, previously known from points along the Matanuska River, *Arctogeophilus glacialis* Attems, previously recorded from Fairbanks, Nome and Port Clarence, and *Escaryus japonicus* Attems, recorded heretofore only from Japan (Todohokke, Hohando). The extension of the range of the last named form into Alaska, where several endemic forms of the same genus occur, is of interest. The point of origin of the species is, of course, an open question for migration may have occurred in either direction.

R. V. CHAMBERLIN

Records of the Palearctic Megachile rotundata in the United States (Hymenoptera: Apoidea)

By Howell V. Daly, Dallas, Texas

Megachile (*Eutricharaea*) *rotundata* (Fabricius), one of the two species in its subgenus reported from North America, has previously been known from the District of Columbia and Virginia (Krombein, 1948). The following inland localities are reported, based on specimens at the University of Kansas (K), and in the private collections of Dr. Lloyd H. Shinners (S), Mr. Robert Van Vleet (V), and the author (D).

Kansas. Riley Co.: Manhattan, 1950, no further data (K; acc. to Dr. C. D. Michener, in letter).

Missouri. St. Louis: Missouri Botanical Garden. 2 ♂♂ 16 July, 1948 on *Veronica longifolia* L.; 3 ♀♀ 16–19 July, 1948 on *Lythrum Salicaria* L.; 2 ♂♂ 21 July, 1948 on *Mentha crispa* L.; 1 ♂ 7 August, 1948 on *Euphorbia marginata* Pursh; 2 ♂♂ 8 August, 1948 on *Mentha crispa;* 1 ♂ 10 August, 1948 on *Statice* sp.; 1 ♂ & 1 ♀ 13 August, 1948 on *Lythrum Salicaria* (S).

Texas. Dallas Co.: Southern Methodist University campus, Dallas. 4 ♂♂ & 1 ♀ 11 July, 1948 on *Leucophyllum frutescens* (Berl.) Johnston (S). 1 ♀ 12 July, 1948 on *Salvia Greggii* Gray (V). 2 ♂♂ & 3 ♀♀ 31 July, 1951 on *Lythrum Salicaria* (D).

Mitchell (1937) reports the related *M. apicalis* Spinola with the comment that the males are practically indistinguishable from those of *M. rotundata.* The fact that females of only *M. rotundata* appeared at the same localities with the males, would suggest that all the males are correctly assigned to the same species. Recorded host plants include representatives of four different families (Labiatae, Lythraceae, Plumbaginaceae, Scrophulariaceae), and of the seven species, four are cultivated plants of European origin (*Lythrum Salicaria, Mentha crispa, Statice* sp., *Veronica longifolia*), and three are cultivated plants native to western Texas and northern Mexico (*Salvia Greggii, Leucophyllum frutescens, Euphorbia marginata*). In Europe this bee is said to visit *Thymus serpyllum, Sedum acre, Sedum*

reflexum and *Centaurea jacea* (Stoeckhert, 1932). All of these except *Sedum reflexum* are naturalized in north-eastern America.

I am indebted to Dr. C. D. Michener for the Kansas record cited, and for verifying the identification of two pairs of *M. rotundata* deposited with him; to Dr. Shinners for the use of specimens in his private collection, and for information on host plants; and to Mr. Van Vleet for the use of specimens in his private collection.

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Apterona crenulella in Utah (Lep.: Psychidae)

Large numbers of larvae of *Apterona crenulella* (Bruand), family Psychidae, were found skeletonizing leaves of apple trees in an area of North Logan, Utah, June 5, 1951. These small larvae were identified by Mr. H. W. Capps of the Bureau of Entomology and Plant Quarantine, Division of Insect Identification.

Upon a careful examination of the affected area, larvae of this bagworm also were found to be skeletonizing foliage of sage brush (*Artemisia tridentata*), matchweed (*Gutierrezia sarothrae*), boxelder (*Acer negundo*), willow (*Salix* sp.), narrow-leaf plantain (*Plantago minor*), pigweed (*Amaranthus retroflexus*), rabbit brush (*Chrysothamnus* sp.), narrow leaf cottonwood (*Populus angustifolia*), and also a yellow composite (*Senecio* sp.). These larvae were so extremely numerous that they also became a house pest. Thousands of them were observed on the walls and windows of homes in the vicinity, a condition definitely objectionable to the home owners. This is the first time that either of the writers have seen *Apterona crenulella* doing damage to cultivated plants in this area.—TED TIBBETTS and G. F. KNOWLTON, Logan, Utah.

A Possible Case of Blowfly Myiasis in a Rat, with Notes on the Bionomics of Bufolucilia silvarum (Mg.)

By Harold R. Dodge, Scientist (R), Communicable Disease Center, Public Health Service, Federal Security Agency, Atlanta, Georgia

Various species of normally saprophytic blowflies may cause myiasis of animals by depositing eggs upon the body of the host, particularly in wounds, or in the soiled wool of sheep. A few species are obligatory parasites, laying their eggs only in wounds, sores, or natural orifices of the body of various animals, or even of man. The following incident seems worthy of record.

One afternoon in June 1951, the writer was with H. L. Gilbertson when he shot a Norway rat at Stoughton, Wisconsin. Upon immediate examination the rat was found to have clusters of fly eggs matted in its fur on both sides of the body. Other than the bullet hole in its head, no sores or wounds were visible. The carcass was placed upon several inches of soil in a glass jar with two thicknesses of cloth securely fastened over the top of the jar. After the maggots had completed feeding, the carcass was removed. When the majority of the flies had emerged and died, these flies and the soil in which they were reared were sent to the author for examination. The flies were identified as follows: 35 *Bufolucilia silvarum* (Meigen), 15 *Lucilia illustris* (Meigen), 3 *Muscina stabulans* (Fall.) and 1 *Sarcophaga nearctica* Parker. An examination of the soil disclosed 87 pupariae of *Lucilia* and *Bufolucilia* and 27 of *Muscina*.

As the premises where the rat was shot had been treated with rat poison four weeks earlier, the possibility that the rat was poisoned must be considered. Judging by the position of the eggs upon its body, it apparently could have removed most or all of the eggs from its fur. If the rat remained alive and in good health the question arises: could the larvae upon hatching successfully penetrate and eventually kill it? Could weakening by poison or disease have predisposed this particular rat to "blowing" by flies?

The rearing of *M. stabulans* and *S. nearctica* indicates contamination of the rearing jar through the cloth cover. These species emerged after the blowflies; most of the *Muscina* escaped when the jar was emptied. The larvae of *stabulans* have been reported to be very destructive to house fly larvae.[1] It is possible that, in the present case, *M. stabulans* destroyed a good many blowfly larvae, for it is estimated that there were at least several hundred eggs on the carcass.

Both *B. silvarum* and *L. illustris* are Holarctic in distribution. Their known biologies and habits are summarized in Hall's monograph.[2] *B. silvarum* is considered to be parasitic upon toads and frogs. *L. illustris* is considered a saprophytic species, breeding in carrion; one record of this species killing young foxes by subdermal myiasis is discounted. However, James[3] reports two cases of human subdermal myiasis involving this species.

TABLE 1. Fly Trap Data on *Bufolucilia silvarum* at Muskegon, Michigan

Year	Trap collections		Max. *silvarum* per trap			Period of trap operation[1]
	No. positive	No. yielding *silvarum*	No.	% of total	Date	
1948	95	80	60	11.9	Sept. 28	Aug. 12 to Oct. 21
1949	196	162	163	13.4	July 7	June 10 to Oct. 21
1950	235	192	2,098[2]	27.8	July 12	Apr. 25 to Sept. 13

[1] *Bufolucilia silvarum* was taken during the entire trapping period except in 1950, when it first appeared May 16.

[2] This figure is based on 265 *silvarum* of a total 953 flies in a 120 cc. sample of a collection totalling 950 cc.

The rearing of *B. silvarum* is of especial interest, in view of the fact that all previously known biological references to species of the genus *Bufolucilia* indicate that they are parasitic, or possibly saprophytic (Hein de Balzac, referred to in Hall) on frogs

[1] PORTCHINSKY, I. A. 1913. [Abstracted in Review App. Entomology Ser. B, 1: 108–110.]

[2] HALL, D. G. 1947 (1948). The Blowflies of North America. The Thomas Say Foundation, Baltimore, Maryland.

[3] JAMES, M. T. 1947 (1948). The flies that cause myiasis in man. USDA Misc. Pub. 631.

and toads. It is also stated (Hall, *idem*) that adults are rarely collected upon decaying substances, and are not often attracted to decaying meat in traps. However, Communicable Disease Center fly traps operated over a three-year period at Muskegon, Michigan, yielded many specimens of this species. The data in Table 1 indicate a sustained high population, evidently greater than could be supported by parasitism of frogs and toads alone.

SUMMARY

Bufolucilia silvarum (Meigen) and *Lucilia illustris* (Meigen) were reared from a rat which was found to have fly eggs matted in its fur when shot. The rat appeared to be healthy; no sores or wounds were found upon its body which might have predisposed it to attack by the flies. The rearing of *B. silvarum* from a vertebrate host is contrary to previous knowledge of its biology. Some fly trap data for this species are presented. *Muscina stabulans* (Fall.) and *Sarcophaga nearctica* Parker were also reared, evidently as a contamination of the rearing jar.

Report of Brown Dog Tick, Rhipicephalus sanguineus (Latr.) Attacking Humans

By ROBERT W. HELM [1]

A female specimen of the brown dog tick, *Rhipicephalus sanguineus* (Latr.) was recently submitted to the author for identification. The specimen was collected by a physician, Dr. M. P. Brolsma, of Lincoln, Nebraska. During August, 1951, Brolsma received a patient seeking information about a tick which had been found firmly attached to the leg, near the ankle. Brolsma inspected the tick, found it to be partially engorged and then sent it to the Department of Entomology at the University of Nebraska for identification.

Although this tick has been recorded in the Mediterranean region as attacking man and as also active in the transmission of boutonneuse fever, a search of available literature does not reveal any previous record of *R. sanguineus* (Latr.) attacking man within the United States.

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Current Entomological Literature

COMPILED BY R. G. SCHMIEDER AND J. W. H. REHN

Under the above head it is intended to note papers received at the Academy of Natural Sciences of Philadelphia and the University of Pennsylvania, pertaining to the Entomology of the Americas (North and South), including Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species will be recorded.

This list gives references of the year 1952 unless otherwise noted. Continued papers, with few exceptions, are recorded only at their first installment.

For other records of general literature and for economic literature, see the Bibliography of Agriculture, Washington, and the Review of Applied Entomology, Series A, London. For records of papers on medical entomology see Review of Applied Entomology, Series B.

NOTE: The figures within brackets [ ] refer to the journal in which the paper appeared, as numbered in the List of periodicals and serials published in our January and June issues. The number of the volume, and in some cases, the part, heft, &c. is followed by a colon (:). References to papers containing new forms or names not so stated in titles are followed by (*); if containing keys are followed by (k); papers pertaining exclusively to Neotropical species, and not so indicated in the title, have the symbol (S).

Papers published in ENTOMOLOGICAL NEWS are not listed.

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